margin. Beneath bronzy ; apical segment of abdomen and legs ferruginous.
Head deeply and rugosely punctured. Thorax not quite two-thirds as long as wide at the base; anterior margin slightly produced in the centre, about half as long as the base ; sides gradually but slightly rounded; base with a yellow median lobe; surface deeply and largely punctured, especially at the sides; dorsal line, and $a$ line parallel to each lateral margin, impressed. Elytra deeply punctate-striate, twice as long as wide; posterior margins finely and sharply denticulate; apex of each bidentate. Beneath and legs punctured, covered with long hairs.
Length $9 \frac{1}{2}$ lines. Breadth $3 \frac{1}{2}$ lines.
Hab. South America.

Remarks on several Genera of Annelides, belonging to the Group Eunicea, with a notice of such Species as are contained in the Collection of the British Museum, and a description of some others hitherto undescribed. By W. Baird, M.D., F.R.S., F.L.S., \&c.

## [Read February 4, 1860.]

This group of Annelides contains individuals remarkable for their great length; and, according to M. Quatrefages, some of the species exhibit a complication of structure superior to that of any other of the Annelida errantia. They are of an elongated form, and generally slender, and are composed of numerous articulations. The head is more or less distinctly lobed, and possesses from five to seven organs usually described as antennæ or tentacles, and sometimes two tentacular cirri on the dorsal part of the buccal segment. The feet are disposed in one row only ; and the branchiæ, which are present in all, are either pectinated and occasionally much developed, or simple and small. The mouth is armed with strong denticulated maxillæ.

This group may be divided into two families, Eunicidsa and Onuphidide.

## Family I. EUNICID正.

The species of this family are characterized by the head being distinctly two- or four-lobed, by the presence of two eyes, and the possession of five long and filiform organs generally described as
antennw or tentacles. One of these is single, placed in the centre, and, following the terminology adopted to distinguish these organs in the Aphroditacea, may be described as the tentacle; two are intermediate, the antenne; and two external, the palpi. Feet armed with simple and compound setæ; usually with one or two spines (aciculæ) and one or two forcipate setæ or hooklets (uncini). Branchiæ generally pectinated and well developed.

To this family belong only two genera, Eunice and Marphysa.

## Genus I. Eunice.

Head two- or four-lobed. Buccal segment carrying on its dorsal side two rather short tentacular cirri of the same structure as the tentacle and antennæ. Simple setr, in most of the species, of two kinds:-one long, flagelliform, sometimes lanceolate or limbate, and always acutely pointed (simple) ; the other slender, but terminating in a broad head, which is surmounted by a series of small teeth, like the teeth of a comb (pectinate seta). The compound setæ have the appendage short, falciform, and toothed on its internal edge. The spines (acicula) are generally stout, darkcoloured, and obtuse. The hooklets (uncini) are, in the greater number of instances, terminated, as it were, with two teeth like those of a forceps (forcipate).

The species are rather numerous, forty-five having been enumerated by M. Quatrefages. Of these, unfortunately, the Museum possesses only a few. Several new species, however, occur, which, after a short notice of those contained in our collection, I shall briefly describe. I shall arrange those which I have been able to examine, according to the different appearance of the uncini or hooklets of the feet. Perhaps they may be worthy of separate generic denominations.
I. Species in which no uncini or hooklets are present.

This division is perhaps equivalent to the genus Eunice as restricted by Malmgren.
II. Species in which uncini are present, but are not forcipate at the apex.
III. Species which possess uncini forcipate at the apex.

These two divisions may be equal to the genus Leodoce of Savigny as restricted by Malmgren.
N.B. All the species mentioned here are in the British Museum.

## I. Species which do not possess uncini. $?=$ Eunice restricted.

## Sp. 1. Eunice aphroditois.

Nereis aphroditois, Pallas, 1788.
Terebella aphroditois, Gmelin; 1789.
Eunice gigantea, Cuvier, 1817 ?, Grube, Quatrefages, \&c.
Nereidonta aphroditois, Blainville.
Leodoce gigantea, Savigny.
There appears to be some confusion with regard to the synonymy of this species. Quatrefages adopts the name of gigantea, and quotes, as the type of it, the Nereis gigantea of Linnæus. Referring, however, to the 'Systema Naturæ,' we find Linnæus quoting, as the type of his species, the Millepoda marina Amboinensis of Seba, 'Thesaurus,' tab. 81. fig. 7, which, as Savigny has already shown, and which, as I have mentioned in my previous paper on the Amphinomacca (vide 'Proceedings of Linnean Society' for 1868, vol. x. p. 219), is in reality the Amphinome carunculata of ${ }^{-}$Pallas.

Cuvier, in his first edition of the 'Règne Animal,' named the present species Eunice gigantea; but Pallas had long anteriorly described and figured it under the denomination of Nereis aphroditois. Quatrefages describes a new species under the name of Eunice Roussæi; but this I consider to be identical with the aphroditois. He quotes Cuvier's gigantea for both; and indeed it would appear that his chief reason for making two species is the difference of their habitat, the one being a native of the Atlantic Ocean and the West Indies, whilst the other is from the Indian Seas, Isle of France, \&c. We have a variety of specimens of what I consider to be the true aphroditois, from Australia and Van Diemen's Land, so that in all probability this species is to be found in various parts of the world.

The head-lobes in all our specimens are four in number. Quatrefages says of his species E.gigantea =aphroditois, "Caput quasi sex-lobatum." Savigny expressly says of his Leodoce gigantea, "tête à quatre lobes."

This is one of the longest of known Annelides, one specimen we possess in the British-Museum collection being 41 inches, or nearly $3 \frac{1}{2}$ feet long.

IIab. Van Diemen's Land, Freemantle, W. Australia, New Holland, Mus. Brit.; Indian Seas, Isle of France, Quatrefages (gigantea) ; Atlantic Ocean, West Indies, Quatrefages (Roussai).

## Sp. 2. Eunice Elsyr, Baird.

Body about $4 \frac{1}{2}$ inches long, and consisting of about 120 es. ments. Head with two lobes, which are round and very prominent. Tentacle, antennæ, and palpi moniliform, of considerable length. Tentacle longer than antennæ, being equal in this respect to the transverse diameter of the first seven segments. Tentacular cirri moniliform also, and about equal in length to the transverse breadth of the buccal segment. This segment is equal to the transverse breadth of the four succeeding segments, and has its ventral margin not crenated, but cleft by two short incisions in the centre. Branchiæ commencing on the sixth foot; pectinations or branchlets at first only three or four, increasing in number in the succeeding segments to eighteen. Dorsal cirri moniliform, rather long and finely pointed. Ventral cirri short and conical. Anal cirri moniliform, of moderate length.

Feet:-Simple setæ long, filiform, and acutely pointed. Pectinate setæ, with numerous fine pectinations or teeth, the outer. one at both sides being a little longer than the others. The compound setæ have the shaft rather short and stout, and the falciform appendage bluntly toothed, the teeth being rather obtuse. Aciculæ two, strong, dark-coloured, and bluntly pointed. No uncini or hooklets visible.

Hab. North Australia, Elsey.

## Sp. 3. Eunioe madeirensis, Baird.

$=?$ Eunice adriatica, Schmarda, Neue wirbellose Thiere, i. p. 124, tab. 32. fig. 257.
Body convex dorsally, flat ventrally, with a furrow running down the centre, wrinkled throughout. Our specimens are imperfect at the caudal extremity; but they consist of about 286 segments, and are about 5 inches long. Head with two lobes. Buccal segment and portion to which the tentacular cirri are attached equal in length to the transverse diameter of the four succeeding segments; its ventral margin smooth, not crenated, and straight-edged. Tentacle, antennæ, and palpi rather short. Tentacle longer than antennæ, indistinctly moniliform. Tentacular cirri short, not jointed, and not equal to the transverse diameter of the buccal segment. Dorsal cirri rather long and slender, ventral cirri short and conical. Branchiæ not commencing till near the 200th segment, and consisting of only one moderately long filament.

Feet :-Simple seta long, lanceolate, finely toothed or serrated on the inner margins and acutely pointed. Compound setæ long, but rather shorter than the simple setæ; falciform appendages with two small teeth, one a little below the apex, the other a little lower down. Spines or aciculæ three in number, all straight and blunt-pointed. Neither pectinate setæ nor uncini were visible.

Hab. Madeira.
This species approaches so closely to the E.adriatica of Schmarda that I can scarcely separate the two. The only marked differences are the structure of the compound setæ and the habitat. In adriatica the falciform appendage is, as it were, forcipate or bifid at the apex, whereas in this species (madeirensis) it is as in most of the other known species, bidentate, one tooth just below the apex, the other lower down. In both species the pectinate setr and uncini appear to be absent.
II. Species in which the uncini are only curved at the extremity, not forcipate or hooked. $P=$ Leodoce, Savigny, as restricted. .

Sp. 4. Eunice norvegioa.
Nereis norvegica, Linnæus, Syst. Nat. 12th edit. p. 1086.
Nereis pennata, Müller, Zool. Dan. i. 30, tab. 29. figs. 4-7.
Nereis pinnata, Müller, l.c. tab. 29. figs. 1-3.
Eunice norvegica, Cuvier, Règn. Anim. iii. 100 ; Aud. \& M.-Edwards; Grube et auctor. var.
Leodoce norwegica, Savigny, Syst. des Annélides, p. 51; Lamk. An. s. Vert. 2nd edit. tom. v. p. 562.
Leodoce norvegica, Malmgren, Ann. Polychata Spetsberg. \&c. p. 64.
Nereidonta norvegica, Blainville, Dict. des Sc. Nat. art. Vers.
Nereidonta pinnata, Blainville, l. c.
Eunice norwegica, Quatrefages, Hist. des Annelés, i. 324.
Eunice pinnata, Quatrefages, l.c. 325.
In this species the simple setæ, the pectinate setæ, and the compound setæ are present. The spines or aciculæ are two in number; and there is only one uncinus or hooklet. This is shorter than the spines, more slender, more sharply pointed, and curved but not forcipate at the apex.

Hab. Our specimens are from Bohuslän, Sweden.

## Sp. 5. Eunioe tentaculata.

Eunice tentaculata, Valenc. MS.; Quatrefages, Hist. Ann. i. 317.
Not Eunice tentaculata, Kinberg, Fregatt. Eugen. Resa, tab. 15. f. 13.

Hab. Van Diemen's Land (Mus. Brit.) ; Port Western, Quatrefages.

In this species simple setæ, pectinate setæ, and compound setæ are present. The spines or aciculæ are two; but there is only one uncinus, which is similar in form to the spines, is strongly curved and not forcipate at the apex.

> III. Species in which the uncini are forcipate at the apex. $=$ ? Leodoce, Savigny, as restricted.

Sp. 6. Eunioe antennata.
Leodice antennata, Savigny, Syst. des Annelides, p. 50.
Eunice antennata, Cuvier, Audouin $\S$ M.-Edwards, Grube, \&c.
Hab. Cosseir, Red Sea.
Sp. 6*. Eunice annulicornis.
Eunice annulicornis, Johnston, Cat. of Non-parasitical Worms, p. 131.
Leodoce amnulicornis, Spinola, MS.?
This species was described by Dr. Johnston from a specimen contained in the collection of the British Museum. It was named Leodoce annulicornis in our collection-a specific name which

- Johnston adopted. The label was marked "Spinola," and it was erroneously considered by Dr. J. that that name was the habitat whence it came. It is in reality the E. annulicornis of Maximilian Spinola, but, I believe, only a MS. name ; and its native habitat may probably be the Gulf of Genoa. The simple setro are long, lanceolate flagelliform, and long and acutely pointed. . Pectinate setæ long, slender, the outermost tooth of the pectinated head being much elongated beyond the others and straight. Compound setæ with the shaft stout, broadly triangular at the apex, where the appendage is fixed, and striated; falciform appendage bidentate, teeth rather small. Aciculæ two or three; on the upper feet there appear to be three, and no uncini. On the lower feet there appear to be only one acicula and one uncinus, which is curved in its length, and has the apex merely emarginate and not forcipate.
In this species the three kinds of setæ are present-simple, pectinate, and compound. The spines or aciculæ are two in number; but there is only one uncinus, nearly equal in size to the aciculw, and forcipate at the apex.


## Sp. 7. Eunioe Harassif.

Eunice Harassii, Audouin \& M.-Edwards, Litt. de la France, ii. 151, tab. 3. figs. 5-7, 10, \& 11; Cuvier, Grube, Quatrefages, \&̧.
Hab. Southern shores of England (Mus. Brit.); Coast of Normandy, \&c., Quatrefages.

There is only one uncinus, curved and forcipate at the apex. The setæ and spines are all present as in the preceding species.
Sp. 8. Eunice macrocheta?
Eunice macrochxta? Schmarda, Neue wirb. Thiere, i. 128, fig. xylogr. app.
Hab. In holes of coral rocks in Jamaica.
In this species, which I consider to be identical with the Eunice macrochacta of Schmarda, the three kinds of setæ, simple, pectinate, and compound, are present. There is only one spine, which is strong, straight, and club-shaped at the apex, and one uncinus, which is strongly forcipate.
Sp. 9. Eunice Quoya?
? Eunice Quoya, Valenc. MS., Quatrefages, l.c. p. 318.
IIab. North Australia, Elscy.
The specimen we possess is in such bad condition that I can only refer it with doubt to the species described by Quatrefages. The falciform appendage of the compound scte is slender and destitute of teeth. There is only one spine, but two uncini, which are smallor and lighter-coloured than the spine, curved and forcipate at the apex.
Sp. 10. Eunice fidiensis, Baird.
Body slender, segments about ninety-eight in number. Branchiæ commence upon the seventh foot-bearing segment. The setw of the feet are not numerous. The simple setm are rather broadly lanceolate and very sharp-pointed. Pectinate setæ appear to be absent altogether. The compound setæ have the falciform appendage bidentate at the apex. There are two spines or aciculæ, which are stout, swollen in the middle of their length, and slightly curved at the point. Only one uncinus or hooklet is present, which is strongly and distinctly tridentate at the apex, and has the shaft curved. It approaches somewhat to the Eunice gracilis of Grube, from Tahiti.

Hab. Fiji Islands (Mus. Brit.).

## Sp. 11. Eunice Woodwardi, Baird.

$=$ ? Leodoce hispanica, Savigny, Syst. des Annél. p. 51.
Body cylindrical, smooth, of a light iridescent colour, about $1 \frac{1}{2}$ inch long. Head with two lobes. Buccal segment rather narrow, not much broader than the following segment. Tentacle, antennæ, and palpi rather long, ringed with black marks, but not jointed or moniliform. Tentacle longer than antenne. Tenta-

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cular cirri short, a little longer than the transverse diameter of the buccal segment. Dorsal cirri rather long. Ventral cirri short and conical. Branchiæ commencing about the third segment; peçtinations filiform.

Feet:-Simple setæ long, lanceolate, acutely pointed, and fincly toothed or serrated on the inner edge or margin for a part of their length. Pectinate setæ small, apparently few in number, and with few pectinations or teeth. Compound setæ short, about half the length of the others; falciform appendage with a sharp tooth just beneath the apex, and a blunter one nearer the lower portion. Aciculæ or spines two, slightly curved, dark-coloured and blunt-pointed. Uncini or hooklets several in number, but varying from two to five, curved and tridentate at the apex, lying across the aciculæ.

## Hab. Corunna, H. Woodward.

## Sp. 12. Eunioe antarotica, Baird.

$P=$ Eunice havaica, Kinberg, Fregatt. Eugen. Resa, tab. 15. figs. $14 b-g$.
Body slender, of a dark æneous colour, and consisting of from 115 to 120 segments. Buccal segment scarcely equal to the two succeeding ones. Head with two lobes. Tentacle, antennæ, and palpi articulated. Tentacle longer than antenno. Tentacular cirri longer than the transverse diameter of the buccal segment, and articulated. The lobe or segment from which they spring is of about the same breadth as the succeeding segment. Branchio small, commencing about the eighth pair of feet, and terminating about the thirty-eighth segment. Anal cirri of considerable length, indistinctly articulated. Dorsal cirri slender. Ventral cirri stout, conical, not so long as the dorsal, but much stronger.

Feet rather small. Simple setæ long, flagelliform and sharppointed. Pectinate setæ few in number, rather small, with the outer tooth longer and stronger than the others. Compound setæ short; falciform appendage small, with a small sharp tooth a little below the apex. Spines or aciculæ two, slightly curved and obtusely pointed. Uncini or hooklets two, curved, and forcipate at apex.

Hab. Antarctic Seas, Antarctic Expedition.

## Sp. 13. Eunice plicata, Baird.

Body cylindrical, tapering towards the inferior extremity, from 2 to 3 inches long, and consisting of about 130 short or narrow articulations. Buccal segment nearly equal to the four succeeding articulations, with the ventral margin prominent, stand-
ing high up, and separated as it were from the upper lobe, which is not crenated but plicated on both upper and lower margins with numerous small plaits running down the ventral side of the segment. Tentacle, antennæ, and palpi indistinctly articulated, rather short, and ringed at intervals with dark bands. Tentacular cirri not equal in length to the transverse diameter of the buccal segment. The branchie commence about the seventh segment; pectinations few throughout, about five in number. Dorsal cirri stout but not long. Ventral cirri short and conical. Anal cirri ringed with dark rings.

Feet:-Simple setæ numerous, lanceolate, very long and very finely pointed. Pectinate setæ few in number; pectinations or teeth numerous, and, as it were, double, one row beneath another, the outermost tooth on each side being the longest and strongest. Compound setæ shorter than the simple setæ; falciform appendage bidentate; one tooth sharp and prominent, a little below the apex, the other blunt and near the lower part. Spines or aciculæ appear to be three in number; two dark-coloured, stout, straight, blunt-pointed, and rather long; a third shorter, lighter-coloured, and obtuse at extremity. One uncinus only, of considerable length, curved, and forcipate at the apex.

Hab. Freemantle, Australia, Dr. Bowerbank.

## Sp. 14. Euniol Bowerbanki, Baird.

Body stout, tapering towards the lower extremity, and consisting of about 140 articulations. Buccal segment broad, nearly equal in length to the transverse diameter of the first three segments of the body. Whole body of a metallic lustre. Tentacle, antennæ, and palpi rather short, moniliform. Tentacle and antennæ of nearly equal length. Tentacular cirri articulated, equal in length to the transverse diameter of the buccal segment. Ventral margin of the buccal segment not crenate. The branchiæ commence on the fifth segment, quickly arrive at the maximum number of pectinations, soon decrease in size, but continue to be present till near the extremity. Dorsal cirri short, stout, articulated. Ventral cirri short and stout.

Feet:-Setæ unusually long. Simple setæ long and very sharppointed. Pectinate setæ with rather numerous pectinations, the outside tooth prolonged and slightly curved inwards. The compound setæ have the falciform appendage strongly bidentate; one tooth (as usual) under the apex, the other on the lower portion.

The spines or aciculæ are two, long, straight, or only slightly curved at the apex, one being shorter than the other. There is only one uncinus or hooklet, which is shorter than the spines, curved, club-shaped at apex, and indistinctly forcipate.

Hab. Australia, Dr. Bowerbank.
Sp. 15. Eunice guttata, Baird.
Body broad, flat, except near the anterior extremity, which is somewhat cylindrical, very gradually tapering towards the tail, and consisting of about 120 very narrow segments. Length nearly two inches, breadth about the centre of the body $2 \frac{1}{2}$ lines. Along the lower portion of the body the back is marked with several large dark spots. Tentacle, antennæ, and palpi not articulated, and moderately long. Tentacular cirri very short. Head indistinctly four-lobed. Buccal segment about equal to the breadth of the four succeeding segments. Ventral margin of buccal segment swollen and crenate. The branchix commence at the sixth segment, and are small and dark-coloured; pectinations about the centre of the body, ten in number. Dorsal cirri rather large.

Feet small. Simple setæ lanceolate and finely pointed. Pectinate setæ finely toothed, the external tooth longer than the others. Compound setw stout, and broad at the summit of the shaft; falciform appendage rather stout, curved at the apex, and with only one tooth, which is a little below the apex. Spines or aciculæ three in number-two long and stout, dark-coloured, and blunt at the point, the third much smaller but of exactly the same form. Uncini or hooklets two, lighter-coloured than the spines, curved, and sharply forcipate.

Hab. Taken between Bombay and Singapore.
Sp. 16. Eunioe narooni, Baird.
Body slender, nearly 2 inches long, and consisting of about 120 segments. Head with two prominent lobes. Buccal segment about equal to the three succeeding, the articulation from which the tentacular cirri spring being of itself equal in size to the first segment of body. Ventral margin of buccal segment not crenated. Tentaclo, antennæ, and palpi inconspicuously articulated. Tentacle longer than the antennæ and palpi, which are all of about equal length. Tentacular cirri longer than the transverse diameter of the buccal segment. Dorsal cirri of moderate length, conical. Ventral cirri short. Branchio very small, commencing on the twelfth segment.

Feet:-Simple setæ long, fine and acutely pointed. Pectinate sctæ few in number and small. Compound setæ only half the length of the simple setæ; falciform appendage small, with only one small tooth under the apex. There are two spines or aciculæ, light-coloured and slightly curved at the apex, which is obtuse, and only one uncinus or hooklet, which is light-coloured also, curved, and forcipate at the apex.

Hab. Island of Narcon, Antarctic Seas, Antarctic Expedition.

## Sp. 17. Eunice Guildingi, Baird.

Body about $5 \frac{1}{2}$ inches long, tapering very much towards the tail, which portion of the body is quite cylindrical. Convex dorsally, flattish ventrally for about half its length. The anterior portion of the body is about 3 lines in breadth, and the posterior only about 1. Body of a dark rufous colour, with very little iridescence. Head with two lobes. Buccal segment about equal to the two next succeeding. Ventral margin of buccal segment not crenate. Tentacle, antennæ, and palpi short, rather thick, and indistinctly moniliform; tentacle a little longer than autennæ. Tentacular cirri about equal to the breadth of the buccal segment. Dorsal cirri very indistinctly articulated, of moderate length. Ventral cirri very short. Branchiæ commencing at about the fifth pair of feet, rapidly attaining their greatest development, but quickly afterwards diminishing in number of pectinations, and at about half the length of the body disappearing altogether.

Feet:-Simple setæ loug, lanceolate, finely denticulate or serrate at one side for half their length, and acutely pointed. Pectinate setæ broad at the apex, but the pectinations or teeth not very distinct, outermost one most prominent; these setw are of unequal sizo, somo boing much smaller than the others. Compound scto with the falciform appendage strongly and sharply bidentate, one tooth a littlo below the apex, the other nearer the lower portion. There is only one spine, which is straight, darkcoloured, and obtusely pointed, and only one uncinus or hooklet, which is curved and indistinctly forcipate at apex.

IIab. St. Vincent's, West Indies, Guilding.

## Genus II. Marpitysa.

Leodocæ marphysæ, Savigny, l. c., Grube, \&c.
Eunice (sp.), Cuvier, Audouin \& M.-Edwards, \&c.
Marphysa, Quatrefages.
IIcad with or without lobes. No tentacular cirri on back of
buccal segment. Eyes, tentaele, antenn $x$, palpi, and branchix as in Eunice. Compound setæ having the falciform appendage frequently long and without teeth on its edge.

## Sp. 1. Marphysa sanguinea.

Nereis sanguinea, Montagu, Linn. Trans. xi. 20. t. 3. f. 1.
Leodoce opalina, Savigny, l.c.
Nereidonta sanguinea, Blainville, Dict. Sc. Nat.
Eunice sanguinea, Cuvier, Audouin \& M.-Edwards, Grube, \&c.
Marphysa sanguinea, Quatrefages, l.c.
In this species, which has been the object of much and careful investigation by M. Quatrefages, and which is not uncommon on our southern coasts, the simple setw of the feet are long, narrowly lanceolate, with a much elongated and acute point. The pectinate setæ are of two kinds :-one slender, broad at the apex, finely pectinate, like the teeth of a small-tooth comb, and having the outermost longer and stronger than the others; the other coarser, shorter, and having the teeth much stronger and fewer in number, like those of a large-tooth comb. Compound setæ rather slonder, with the falciform appendage long, slender, and terminating in a sharp point, which is straight, and not toothed on the edge. The acicule are four or five in number in the upper feet, three in those of the middle third, and only two in the feet of the lower third of the body: one of these is generally smaller than the others and of a lighter colour, as if it were taking the place of the uncini; but, like the acicule, they are nearly straight, obtuso at the point, and not forcipate. The pectinate seta, of both kinds, are much more numerous in the feet of the lower third of the body; and the compound setie become fewer and more slender.

Hab. South coast of England, Falmouth, South Devon, and Polperro, coast of Cornwall (Mus. Brit.) ; coast of France, Quatrefages.

In our own collection at the British Museum we have from Polperro a small Annelid which is either a young one or a small variety of the M. sanguinea. The only differences I can observe are, its being much more slender in all its proportions, and the aciculo being only three in the feet of the upper third, and only one in the middle and lower third of the body, while there is a distinct uncinus, somewhat curved and slightly forcipate at the apex.

Sp. 2. Marpitsa Parishit, Baird.
Body about 32 inches long, composed of about 350 segments,
of a dark æneous colour throughout, and iridescent. Head small, with two comparatively large lobes. Labrum crenulated. Buccal segment equal in size to the three succeeding ones. Tentacle, antennæ, and palpi annulated, short, not much longer than just to reach beyond the margin of the head; all of them of about equal length. Body narrower at the two extremities; anteriorly it is so only for a short distance, about the first seven segments, then becoming broad for a short distance, and again contracting as it descends posteriorly. The first six or eight of the anterior segments are wide, then they become narrow, and the breadth of the body becomes greater till about the 60th segment, when they again begin to increase in width, while the body itself begins to decrease in breadth. This continues till they approach the tail, when the thirty or forty last segments again become narrower. The tail appears to be destitute of caudal cirri. The branchis arc pectinate, though they do not appear to exceed five or six filaments in number; they commence about the 24th segment, and continue till near the lower extremity.

Feet :-On the 24th pair the setæ are of two kinds only; they are numerous and long. The simple setæ are curved and flagelliform, or elongate-lanceolate. The compound setæ are slender; the falciform appendage is long and slender, finely pointed, without teeth, having exactly the appearance of a long slender bayonet. There are four strong and black-coloured aciculæ, blunt-pointed, and a fifth not quite so strong or long as the others (? takes the place of the uncinus). About the 60th foot or thereabouts there appear to be only the four aciculæ; and two of these are not so obtuse at the point as the others; the setro are exactly similar to those of the anterior feet. In the feet of the lower portion of the middle third of the body, the simplo seto are precisely the same as those above: the aciculæ are only two, dark and blunt-pointed; but two others accompany them, of a much lighter colour, not so strong, and slightly curved at the apex. Pectinate setæ appear now ; they are of two kinds, one slender, with the head broad and a number of very fine teeth, the other coarser, the head slightly oblique, and the teeth strong and reduced to the number of from four to six, resembling very much in appearance a five-short-pronged silver fork.

Hab. Brazil, Capt. John Parish, R.N.
$N . B$. These are the only species of this genus the British Museum at present possesses. The described species are not very numerous, Quatrefages enumerating only nine.

## Family II. ONUPHIDID压.

Onuphididæ, Malmgren, Annulat. Polychata Spetsberg. \&̌c. 1867.
Head with lobes as in Eunicidæ, furnished with seven organs usually described as antennæ or tentacula. Two spring from the front of the head, and are very short (antennules). The remaining five are as in Eunicidæ. Tentacular cirri generally present, sometimes wanting. Branchix pectinated or plumose-or simple, consisting of only one filament. Eyes two. Maxillæ as in Eunicidæ.

To this family may be referred five genera, four of which have already been described, which may be thus characterized:-
I. Onvpirs, Audouin \& M.-Edwards. Branchiæ pectinate. Tentacular cirri placed laterally on buccal segment. Tentacle, antennæ, and palpi annulated more or less throughout their whole length.
II. Diopatra, Audouin \& MI.-Edwards. Branchiæ plumose, the branchlets disposed in a spiral tuft round a central stallk. Tentacular cirri placed on the dorsal portion of the buccal segment. Tentacle, antennæ, and palpi strongly annulated at the inferior or basal portion only.
III. Tradopia (gen. nov.). Branchio pectinate. Tentacular cirri placed on dorsal part of buccal segment. Tentacle, anteunæ, and palpi strongly annulated on the lower or basal portion.
IV. Nothria, Johnston (Malmgren). Branchiæ bipartite only. Tentacular cirri placed on the dorsal portion of buccal segment. Tentacle, antennæ, and palpi simple, not annulated on any portion of their length.
V. Hyalineccia, Malmgren. Branchiæ reduced to a simple branchial filament. No tentacular cirri. Tentacle, antenux, and palpi annulated at the inferior or basal portion.

Genus I. Onvphis, Audouin \& MT.-Edwards, Litt. de la France, ii. 151, t. 3A. figs. 1-5; Malmgren.

We have no specimens belonging to this genus in the BritishMuseum collection.

Genus II. Diopatra, Audouin 乌 Mr.-Edwards, l.c. 155 ; Kinberg, Malmgren, \&c.
Branchiæ plumose, not pectinate, but consisting of a tuft of many short filaments rolled in a spiral form round a central stalk.

Tentacular cirri of moderate length, arising from under the dorsal edge of buccal segment. Tentacle, antennæ, and palpi strongly annulated on the lower portion or root, which is of considerable length.

## Sp. 1. Diopatra amboinensis.

Diopatra amboinensis, Audouin \& M.-Edwards, Litt. de la France, ii. 156, tab. 3 A. figs. 6-8; Grube, Quatrefages, \&c.
In this species, of which we possess only one specimen, the simple sete of the feet are of two kinds-one shorter than the other, slightly elbowed near the point, which is very acute, the other much longer, lanceolate, and indistinctly or very minutely serrate on the margins. Pectinate sete numerous, the broad head on which the teeth are placed, with its pectinations, being disposed obliquely. There appear to be two uncini or hooklets to each fuot, of a stout form, and forcipate at extremity, but no aciculæ.

IIab. Amboina, M.-Edwards. (No habitat to our specimen.)

## Genus III. Tradopia, Baird.

Branchire pectinated. Tentacular cirri placed on dorsal part of buccal segment. Tentacle, antennæ, and palpi strongly annulated on inferior or basal portion, which is more than half the length of the whole organ.
Sp. 1. Tradopia madulata, Baird.
Body about 8 inches long, narrow, tapering gradually to the tail. Rather flat on dorsal surface, and somewhat convex anteriorly on the ventral surface. Head rather small. Antennules very short. Tentacle, antennæ, and palpi very different from each other in length : tentacle and antennæ short, of about equal length; palpi long, nearly double the length of the antennæ. These organs are all finely and closely annulated on the basal portion, which is marked anteriorly with a row of dark spots throughout its whole length, are rather thick, and at least double the length of the anterior or terminal portion, which is short, smooth, and filiform. The tentacular cirri are short and slender, placed on dorsal portion of the buccal segment. The anterior feet are prominent and project upwards. The branchio are pectinate, commencing on the first foot, at first consisting only of two branchlets or filaments, but after the third or fourth becoming more pectinate. The tail terminates in two rather short cirri.

Anterior feet with the fascicle of bristles all simplo, lancenlate, some, however, nearly double the length of the others; and in these feet no forcipate uncini, nor pectinate setæ, nor aciculo are to be seen. In the feet, however, of the upper third of the body the pectinate setæ and the forcipate uncini make their appearance, the pectinate setæ with the head straight, and all the teeth or pectinations on the same plane, the forcipate uncini as in Nothria and Onuphis, while the simple setæ become more broadly lanceolate and limbate. The branchiæ on this part of the body consist of numerous branchlets or filaments, two stout branches at first being given off, which very shortly divide again into others, which again divide till there are about twenty filaments or branchlets. The main stems of these branchix are beautifully edged with blunt, round-pointed cirri; and all the branchlets or filaments appear as if beaded on their margins. The posterior feet retain the pectinate setro and uncini ; but the branchiæ are reduced (as in the first two or three feet) to two simple filaments.

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## Genus IV. Notiria, Johnston (s. str. Malmgren).

Branchix bipartite. Tentacular cirri placed on the dorsal part of tho buccal segment. Tentacle, antennæ, and palpi simple, not annulated on any portion of their length.

## Sp. 1. Nothria conohylega.

Onuphis conchylega, Sars, Beskr. og Jaktt. p. 61, tab. 10. f. $28 a-c$.
Onuphis Eschrichti, Ersted. Groenl. Ann. Dors. 20, tal. 3. f. 33-41 \& 45 .
Diopatra Eschrichti, Grube, Fam. Ann. 43; Quatrefages.
Northia conchylega, Johnston, Cat. Non.-Parasit. Worms, 138.
.Nothria *conchylega, Malmgren, Ann. Polych. Spetsberg. 66.
Hab. Coralline region, British coast, Berwick Bay (Dr. Johnston) ; Shetland Islands (J. Gwyn Jeffreys) ; South Devon (J. Cranch); North Seas (Malmgren).

Genus V. Hyalingeota, Malmgren, Ann. Polych. Spetsberg. 67. Northia, Johnston, Cat. Brit. Worms.
Branchim reduced to one simple branchial filament. No ten-

[^0]tacular cirri. Tentacle, antenno, and palpi annulated at the inferior or basal portion.

## Sp. 1. Hyalingecia tubicola.

Nereis tubicola, Mïller, Zool. Dan. i. 18, tab. 18. f. 1-6.
Leodoce tubicola, Savigny, Syst. des Annél. 383.
Onuphis tubicola, Sars, Beskr. og Jaktt. 48; Quatrefages.
Northia tubicola, Johnston, Cat. Non.-Parasit. Worms, 136.
IIyalinœcia tubicola, Malmgren, l.c. 67 .
Hab. Shores of Great Britain, Scotland, South Devon, Cornwall, \&c. (Brit. Mus.) ; Asia Minor (McAndrew); North Sea (Malmgren).

As there seems to be some little obscurity about this species, I shall first describe the animal as it occurs in such specimens as we possess, and afterwards make a few critical remarks as to its name and position.

The body of the animal is generally nbout $2 \frac{1}{2}$ inches long. The tube which it inhabits, and which is horny, cylindrical, and exactly like the barrel of a small quill pen, is about $3 \frac{1}{2}$ inches long. The head presents the appearance, on the buccal surface, of two lobes, as in Eunice. The antennules are very short, rounded-oval, and are attached to the front of the apex of the cephalic segment. The tentacle is longer than the antennæ or palpi, and is annulated at the base. The antennæ, which spring from the head-lobe along with the tentacle, are of the same form as this organ, but a little shorter. The palpi spring from the side of the cephalic segment, and are still shorter than the antennæ. All these organs are annulated at the base, but do not appear to be jointed throughout their length. The eyes are two in number. The jaws are in three pairs-one pair curved, simple, a second strong and armed with twelve strong denticulations; the third pair are denticulated also, and armed with about six donticles. The two or three uppermost or most anterior of the feet are prominent, have a large setiferous tubercle with three cirri implanted on its surface, and project straight upwards. On the succeeding feet the ventral cirrus soon disappears, leaving only in its stead a round tubercle. The dorsal cirrus on the lower half of the body is long, lying on the back, and takes the place of a branchial organ of only one filament.

Feet :-Setæ of two kinds only, simple and pectinate. Simple setw long, lanceolate, flattened or broadly limbate towards the upper half, and finely pointed. Pectinate setæ rather long; pec-
tinations or teeth rather numerous, all on the same plane and equal in size; they vary in number, there being sometimes as many as ten in one fascicle. No compound setæ. Aciculæ or spines two to each foot on the middle or lower part of the body only, straight and very sharp-pointed. These spines are not round like those in the Eunicidæ, but are flat and more like simple setæ, taking the place of aciculæ. Uncini or hooklets generally two in number, a little shorter than the aciculæ, more cylindrical, and forcipate or bidentate at the apex.

## Sp. 2. Hyalinequia bilineata, Baird.

Animal slender and narrow, gradually diminishing in size towards the tail, convex dorsally, and marked with two longitudinal reddish-coloured lines, which run throughout the whole length, one on each side. A small dark-red spot occurs between each foot. The organs attached to the head, antennules, tentacle, antennæ, and palpi, are very similar to those of tubicola; and the feet are furnished with only the same kinds of sete as in that species. The simple setr, however, are linear-lanceolate, not limbate or broadly lanceolate in the upper third as in tubicola. Dorsal and ventral cirri occur on the two upper thirds of the body.

These seto and cirri vary considerably according to their situation. In the anterior pairs of feet there are no uncini or hooklets; but instead of them are two setæ very like the compound sete of Eunice, only the falciform appendage (which is bidentate near the apex) is as it were soldered to the shaft and not moveable. Towards the middle of the body these compound-looking seta disappear, and their place is taken by two regular forcipate uncini, as in tubicola. The shaft, however, is much curved, and it is by far the stoutest of all the setæ of the feet. On the lower portion of the body the simple setæ are of two kinds-one, threc or four in number, being straight, stout, and very sharp-pointed, more like sharp-pointed aciculæ than setæ (are they aciculæ?), the others of the usual form, linear-lanceolate, about half the size of the others.

The cirri appear to be three in number on the segments of the upper third of the body. One of these is longer than the two others, and may be considered the branchial filament. About the middle third of the body this branchial filament disappears, only the two cirri being present. On the lower third of the body one
of these cirri also disappears, one cirrus only remaining. Tailcirri two in number.

The tube in which the worm lives is pellucid, soft, of a thin horny texture, and appears fitted closely to the body of the animal, wrapping it tightly around.

This species is much narrower and more slender than tubicola, and is altogether much smaller. The two longitudinal red lines running along its back are very distinct and characteristic. The cirri maintain the number of three for about a third of the length of the body, instead of only on three or four of the anterior feet; and the tube is very different from that of tubicola.

Hab. Off the coast of Cornwall, at a depth of from 20 to 40 fathoms water (Laughrin, Mus. Brit.).

## Sp. 3. Hyalingecia varians, Baird.

Worm about an inch in length, slender, of a slightly metallic lustre throughout. The tube is slender, cylindrical, about $1 \frac{1}{2}$ inch long, of a horny substance, and contains the animal freely in it.

The head is rather small, but the organs springing from it are long. Antenuules oval, springing from the anterior edge of the head, broader and considerably longer than those in tubicola. Tentacle longer than any of the other organs. Antennæ shorter than tentacle, and palpi shorter than antennæ. All these fivo organs are closely annulated at their base, having a distinct joint a little distance from the annulated portion, and being then indistinctly jointed at distant intervals during their length.

The anterior feet are rather prominent, and the cirri implanted upon them very short and small. The setiferous tubercle, giving origin to the fascicle of setm, is placed between two large cirri in the succeeding pairs of feet. Dorsal cirri, or branchial filaments, onf the upper half of the body long, then suddenly becoming shorter as they descend to the lower half. Setæ of two kinds only, simple and pectinate. Simple setæ long, very sharp-pointed, of a lanceolate form, and sligbtly curved, the flattened lanceolate portion being near the apex. Pectinate setæ rather long, with numerous pectinations or teeth, all on one plane. No aciculæ or spines to be seen. Uncini in general forcipate at the extremity. Tail furnished with two rather long cirri.

This is the general appearance presented by this species. In many points, however, there are variations from this normal structure. The sete of the feet vary much in number, the greater
number of both kinds (especially the pectinate setæ) being situated about the middle portion of the body. The two or three anterior pairs of feet, and the two last pair, have the uncini or hooklets changed into the appearance of the compound setre of Eunice, the falcate appendage, however, being as it were soldered to the shaft and small-distinctly bidentate, as in Eunice. The uncini are generally two in number to each foot; but occasionally there are three, and generally one is smaller than the other. The caudal cirri show considerable variation also. In general there are two; but in one or two specimens examined there were three distinct cirri, and in one specimen one of the two cirri was divided, soon after it had sprung from the body, into two, or became, as it were, dichotomous.

From this variableness of the different portions of the body I have assigned to it its specific name.

Hab. St. Vincent's, West Indies, L. Guilding.
The genus Hyalincecia of Malmgren was first established by Dr. Johnston, in his 'Catalogue of British Non-Parasitical Worms,' in 1865, under the name of Northia. Malmgren changes the name Northia to Nothria, and derives it from the Greek word $\nu \omega \theta$ pos, piger (slow ?). He says that Dr. Johnston must have written it Northia in a mistake, unless he derived it from the word North, in the same way as Dr. Gray formed his genus Fromia (in Echinoderms) from the English preposition from. I suspect Dr. Johnston had no idea of deriving his genus Northia from the English word North (point of the compass), but that it was intended as a compliment to a person of the name of North.

In 1847 Dr. Gray named a genus of Mollusca Northia, taking as the type a species of Nassa ( $N$. Northia), and so called it in honour of a person of the name of North. As this genus of Mollusks takes precedence by far in point of time of Johnston's genus of Annelides, I think it advisable, though for a very different reason from that given by Malmgren, to adopt this naturalist's correction, and for the future write the name Nothria. Johnston takes the species Onuphis tubicola as the type of his genus Northia, and gives as his chief reason for forming the genus (separating it from Onuphis) the fact that the two species referred to it are destitute of pectinate branchix, which exist in the species of the genus Onuphis as adopted by Audouin and M.-Edwards, Grube, \&c. For the Northia tubicola of Johnston, Malmgren forms the new genus Hyalinccia, while as the type of the genus Nothria he
adopts the second species of Johnston's Northia, the $N$. conchylega (Onuphis conchylega of Sars). But I cannot see why M. Malmgren adopts Dr. Johnston's genus and at the same time refuses to accept tho species tubicola as the type. For my own part, I should have preferred retaining the genus Nothria for the species tubicola, and should have wished M. Malmgren had constituted a new genus for conchylega. The only generic difference between the two species, as far as I can see, consists in the presence of the two postoccipital cirri in conchylega, and their absence in tubicola. Johnston does not seem to have seen these cirri in the specimens of conchylega which he examined; and Sars, who originally described the species, takes no notice of them, either in his description or his figures (see Sars, Beskriv. og Jaktt. p. 61, tab. 10. fig. 28). Our British specimens of the species are unfortunately imperfect, those from Berwick Bay (Dr. Johnston's own specimens) consisting of tubes only and one fragment of the animal; while the specimens we possess from the sea off the Shetland Islands, collected by Mr. Jeffreys, are equally fragmentary, seven or eight specimens existing of the inferior half of the animal only, not one having the head or anterior portion of the body entire.

It is just possible, therefore, that the Northia conchylega described and figured by Sars and Johnston may turn out to be a distinct species from that described by Ersted, Grube, Malmgren, \&c., which not only possesses the postoccipital cirri, but, according to Ersted's figure and description of Onuphis Eschrichti (considered to be synonymous with conchylega by Malmgren), has also bipartite branchie.

On the Natural History and Hunting of the Beaver (Castor canadensis, Kuhl) on the Pacific Slope of the Rocky Mountains, by Ashdown H. Green, Esq. With Supplementary Notes by Robert Brown, Esq., F.R.G.S. (Communicated by James Murie, M.D., F.L.S.)
[Read November 5, 1868.]
I nave have been for three years almost constantly engaged in trapping beavers, so that what remarks I may have to make on their habits and history, though somewhat at variance with the


[^0]:    * For some critical remarks on the genus Nothria, see at the end of genus Hyalincecia following.

